REMARKS

Administrative Overview

In the Office Action mailed on December 16, 2008, claims 1–25 and 29 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the applicant regards as the invention; claims 1, 2, and 5–29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2005/0080850 to Salesky et al. (hereinafter "Salesky") in view of United States Patent No. 7,233,592 to Oi et al. (hereinafter "Oi"); and claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Salesky in view of Oi and further in view of U.S. Patent No. 7,222,305 to Teplov et al. (hereinafter "Teplov").

The Applicants hereby amend claims 1–6, 9–14, 16, 17, 22, 24–26, 28, and 29. Support for the claim amendments can be found throughout the Applicants' specification, drawings, and claims as originally filed. No new matter is introduced by the amendments. After entry of the claim amendments, claims 1–29 will be pending in this application. Accordingly, the Applicants respectfully request reconsideration of claims 1–29 in light of the amendments made above and the arguments presented below, and the withdrawal of all rejections.

The Examiner's rejections are addressed in the order in which they appear in the Office Action.

Amended Claims 1–25 and 29 are not Indefinite

Claims 1–25 and 29 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the applicant regards as the invention. The Applicants respectfully submit that the foregoing amendments to claims 1, 14, and 29 overcome the Examiner's rejections thereof and of dependent claims 2–13 and 15–25. Accordingly, the Applicants respectfully request that this ground of rejection be reconsidered and withdrawn.

Claims 1, 2, and 5–29 are Patentable over Salesky in view of Oi

Claims 1, 2, and 5–29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Salesky in view of Oi. The Applicants respectfully traverse this rejection as applied to the claims, as amended.

To demonstrate a prima facie case of obviousness, all of the limitations of the claim at issue must be taught or suggested by the prior art reference(s) relied upon in support of the rejection. See MPEP § 706.02 (j) and § 2143. The Applicants respectfully submit that neither Salesky nor Oi, alone or in proper combination, teaches or suggests all of the limitations of any one of the Applicants' amended independent claims 1, 14, 26, and 29, and, therefore, do not establish a prima facie case of obviousness of those claims or of claims 2, 5–13, 15–25, 27, or 28, which depend therefrom.

Applicants' Amended Independent Claims 1, 14, and 26

In various embodiments, Applicants' invention relates to methods and systems for synchronizing, in a bandwidth-adaptive manner, consumer node representations of a dynamic data set with a source node representation of the dynamic data set. See, e.g., Specification at para. [0001]. To enable the bandwidth-adaptive synchronization of the dynamic data sets, the methods and systems employ a communications service that receives communications from the source node and transmits communications to the consumer nodes. More specifically, the communications service receives, from the source node, both metadata information and data packets, which represent the current state of the source-node dynamic data set. The communications service then transmits selected metadata information and data packets to each consumer node based on the bandwidth of the connection between that consumer node and the communications service. See, e.g., Specification at para. [0040] and [0042].

For example, with reference to FIG. 3 of Applicants' specification, a communications service 300 receives metadata packets and data packets from a source node 100, and transmits to a consumer node 150 over a **high-bandwidth** connection every received metadata packet and data packet. In contrast, the communications service 300 transmits to a consumer node 150'' over a **low-bandwidth** connection only a subset of the metadata packets and data packets received from the source node 100. More specifically, as illustrated in FIG. 3, the high-bandwidth-connected consumer node 150 receives metadata packets 310, 320, and 330 and data packets 0, 1, 2, 3, 4, and 5, while the low-bandwidth-connected consumer node 150'' receives

only metadata packets 310 and 330 and data packets 0, 1, 2, 4, and 5. The communications service 300 does not transmit metadata packet 320 or data packet 3 to consumer node 150''. See, also, Specification at para. [0042]. Nevertheless, because the consumer node 150'' receives, from the communications service 300, the most recent metadata packet that identifies each data packet representing the current state of the source node 100 dynamic data set (*i.e.,* metadata packet 330 identifying data packets 0, 4, and 5), the consumer node 150'' is still able to correctly synchronize its data set with that of the source node 100. See, e.g., Specification at para. [0042].

As also illustrated in FIG. 3 of Applicants' specification, following the transmission of metadata packet 330 to consumer node 150'', communications service 300 transmits data packets 4 and 5 to consumer node 150''. In contrast, following the transmission of metadata packet 330 to consumer node 150, communications service 300 transmits only data packet 5 to consumer node 150, as data packet 4 was previously transmitted to the consumer node 150 (i.e., following the transmission of metadata packet 320). Thus, in order to communicate with the consumer nodes 150, 150'' in a bandwidth adaptive manner, **the communications service 300 may select, in response to the transmission of a common metadata packet to each consumer node 150, 150'', different sets of data packets for transmission to the different consumer node 150, 150''** – i.e., each set may include only those data packets responsive to the commonly transmitted metadata information that were not previously transmitted to the particular consumer node in question. See, also, Specification at para. [0042].

Applicants' amended independent claims 1, 14, and 26 include limitations directed towards this type of bandwidth-adaptive communication between the communications service and the consumer nodes – i.e., limitations directed towards selecting and transmitting, in response to the transmission of **the same metadata packet** to different consumer nodes, **different sets of data packets** to the different consumer nodes. For example, Applicants' amended independent claim 1 recites, in part:

> "(c) selecting **first and second sets of the identified data packets responsive to the received metadata packet, the first and second sets being different from one another;**
>
> (d) **transmitting, from the communications service to a first consumer node, the metadata packet and the first set of identified data packets** for synchronization of a first dynamic data set represented at the first consumer

node with the state of the changing data set represented at the source node at the point in time; and

(e) **transmitting, from the communications service to a second consumer node** having a different bandwidth connection with the communications service than the first consumer node has with the communications service, **the metadata packet and the second set of identified data packets** for synchronization of a second dynamic data set represented at the second consumer node with the state of the changing data set represented at the source node at the point in time." (Emphasis added).

Similarly, Applicants' amended independent claim 14 recites, in part, a communications service for:

"a) **selecting, in response to the received metadata packet, a first set of the identified data packets for transmission to a first consumer node and a second set of the identified data packets, different from the first set, for transmission to a second consumer node** having a different bandwidth connection with the communications service than the first consumer node has with the communications service;

b) **transmitting the first set of the identified data packets, along with the metadata packet, to the first consumer node** for synchronization of a first dynamic data set represented at the first consumer node with the state of the changing data set represented at the source node at the point in time; and

c) **transmitting the second set of the identified data packets, along with the metadata packet, to the second consumer node** for synchronization of a second dynamic data set represented at the second consumer node with the state of the changing data set represented at the source node at the point in time." (Emphasis added).

And, Applicants' amended independent claim 26 recites, in part:

"a synchronization engine for **selecting, in response to the received metadata packet, first and second sets of the identified data packets, the first and second sets being different from one another;** and

a transmission subsystem for **transmitting i) the metadata packet and the first set of identified data packets to a first consumer node, and ii) the metadata packet and the second set of identified data packets to a second consumer node** having a different bandwidth connection with the communications service than the first consumer node has with the communications service." (Emphasis added).

Applicants respectfully submit that, in stark contrast, neither Salesky nor Oi teaches or suggests these claim limitations. More particularly, Salesky appears to describe a "networked computer communications system." Salesky at Abstract. The communications system includes a "presenter client 12 [that] is connected to attendee client[s] 18 through a conference server 14

and data network 16." Salesky at para [0054] and at FIG. 1. "During a conferencing session, presenter client 12 takes periodic 'snap-shots' of the application screen image contained within a rectangular boundary determined by the presenter, breaks the screen shot into smaller rectangular blocks, [and] compares these blocks to information from a previous screen shot. A block that has changed is passed to conference server 14 after it has . . . received identification marking ('ID stamps')." Salesky at para [0057]. "The presenter client identifies where the block is in the capture rectangle with a block-location ID stamp; it identifies the time with a time-stamp; it may also identify itself with an origin stamp, and provide other ID stamps as needed." Salesky at para [0058]. "The changed blocks, however transformed, with ID stamps, are held on the conference server until they have been sent to all attendee client computers 18." Salesky at para [0059].

Accordingly, Salesky describes sending a block of an application screen image from a presenter client computer 12 to a conference server 14. In doing so, the presenter client computer 12 may first transform the block and stamp it with ID information, such as location, time, and/or origin. The conference server 14 then sends the block to an attendee client computer 18. Because the data block is **stamped** with the ID information (e.g., metadata information), the two are **tied together** and transmitted together. In other words, for a given metadata stamp, the same data block is always transmitted. Accordingly, Salesky fails to teach or suggest transmitting a metadata packet along with a first set of identified data packets to a first consumer node and also transmitting the **same** metadata packet along with a second set of identified data packets (which are **different** than the first set of identified data packets) to a second consumer node, as recited in each one of the Applicants' amended independent claims 1, 14, and 26.

For its part, Oi appears to describe "a packet transfer method and a packet transfer control circuit." Oi at Col. 1, lines 5–6. In one embodiment, a guide packet and a plurality of write packets may be transferred between nodes. See, e.g., Oi at Col. 10, line 28 to Col. 11, line 10. "The guide packet 31 stores guide information such as the number of the subsequent write packets and the state of each of the write packets 32a, 32b, 32c." Oi at Col. 10, lines 33–36. However, when a node writes information to a write packet for transfer to another node, it also writes information to the guide packet, thereby altering the guide packet. See, e.g., Oi at Col. 10, lines 44–64. Nowhere does Oi describe transferring the **same** guide packet, but along with

different write packets, to two different nodes. More particularly, if the guide packet remains the same, the write packets transferred therewith have also remained the same. Thus, like Salesky, Oi fails to teach or suggest transmitting a metadata packet along with a first set of identified data packets to a first consumer node and also transmitting the **same** metadata packet along with a second set of identified data packets (which are **different** than the first set of identified data packets) to a second consumer node, as recited in each one of the Applicants' amended independent claims 1, 14, and 26.

Applicants' Amended Independent Claim 29

Applicants' amended independent claim 29 recites a method for synchronizing a consumer node representation of a dynamic data set and a source node representation of the dynamic data set. Steps to the method include:

> "(a) receiving from a source node a first metadata packet identifying a first plurality of data packets . . .
>
> (b) receiving from the source node a second metadata packet identifying a second plurality of data packets . . . [and]
>
> (c) generating, **by determining the difference between the first metadata packet and the second metadata packet,** a third metadata packet identifying a third plurality of data packets." (Emphasis added).

Applicants respectfully submit that neither Salesky nor Oi teaches or suggests generating a third metadata packet through a comparison of first and second metadata packets, as recited in Applicants' amended independent claim 29. The Examiner notes that Salesky describes the generation of "delta blocks." See, Office Action at Page 10. But, Salesky's "delta blocks" represent changes to a portion of an image (i.e., changes to a block in the capture rectangle) from one image to the next (see, e.g., Salesky at FIG. 4E), and not the difference in the metadata associated with that block. It is conceivable that one of Salesky's "delta blocks" could itself be stamped with metadata, but there is no suggestion or teaching in Salesky that such metadata would be generated by **"determining the difference between [a] first metadata packet and [a] second metadata packet,"** as recited by Applicants' amended independent claim 29.

For its part, while describing a packet transfer method and a packet transfer control circuit, Oi is similarly silent with respect to generating a third metadata packet by **"determining the difference between [a] first metadata packet and [a] second metadata packet."**

Accordingly, the Applicants respectfully submit that Salesky and Oi, even if combined, do not fulfill all of the requirements of Applicants' amended independent claims 1, 14, 26, and 29, and, therefore, do not legally establish a prima facie case of obviousness of those claims or of claims 2, 5–13, 15–25, 27, and 28, which depend therefrom. The Applicants, therefore, respectively submit that each of these claims is patentable over Salesky in view of Oi.

Claims 3 and 4 are Patentable over Salesky in view of Oi and further in view of Teplov

Claims 3 and 4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Salesky in view of Oi and further in view of Teplov. The Applicants respectfully traverse this rejection as applied to the claims, as amended.

As previously explained, Salesky and Oi each fail to teach or suggest transmitting a metadata packet along with a first set of identified data packets to a first consumer node and also transmitting the **same** metadata packet along with a second set of identified data packets (which are **different** than the first set of identified data packets) to a second consumer node, as recited in Applicants' amended independent claim 1. Applicants respectfully submit that Teplov also fails to teach or suggests such claim limitations. In fact, Teplov merely appears to describe reproducing a presenter's desktop for attendees of a real-time collaboration by sending object primitives and action primitives to the attendees for execution thereat. See, e.g., Teplov at Abstract. Accordingly, the Applicants respectfully submit that Salesky, Oi, and Teplov, even if combined, do not fulfill all of the requirements of Applicants' amended independent claim 1, and, therefore, do not legally establish a prima facie case of obviousness of that claim or of claims 3 and 4, which depend therefrom. The Applicants, therefore, respectively submit that each of these claims is patentable over Salesky in view of Oi and further in view of Teplov.

CONCLUSION

In light of the foregoing, the Applicants respectfully submit that all of the pending claims 1–29 are in condition for allowance. Accordingly, the Applicants respectfully request reconsideration, withdrawal of all grounds of rejection, and allowance of all the pending claims 1–29 in due course.

If the Examiner believes that a telephone conversation with the Applicants' attorney would be helpful in expediting the allowance of this application, the Examiner is invited to call the undersigned at the telephone number identified below.

Respectfully submitted,

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